

## **REMARKS**

### **I. Claim Rejection under 35 U.S.C. §102(b)**

In the subject Office Action, claims 1-9 and 12 were rejected under 35 U.S.C. §102(a) as being anticipated by Takehiro et al, JP 07-31120 ("Takehiro"). In response, Applicants have amended the claims and make the following arguments.

#### **A. No tapered cavity in Takehiro**

The Examiner states that Takehiro teaches "a round tapered wall [see outer diameter of end portion] defining a tapered cavity [cavity for 6]". In response, Applicants have amended claim 1 so as to recite the following:

"....a surface and a round tapered wall formed within the first housing end portion and configured to progressively expand toward and terminate on the surface, with the tapered wall defining a tapered cavity with a substantially circular opening in the surface;"

First, this claimed internal tapered cavity formed within the first housing end portion, as now described in Applicants' claim 1, distinguishes over the external conical surface portion of the end of the pin 6 of Takehiro. Second, to further clarify the differences between Applicants' invention and Takehiro, claim 1 has been amended to recite that the tapered wall is configured to "progressively expand toward" the surface on the end of the housing. In contrast, the tapering of the wall of the pin 6 in Takehiro progressively contracts the dimensions of the pin toward the end of the housing.

#### **B. No tapered cavity in Takehiro configured and dimensioned to receive a coaxial connector**

To better emphasis the self alignment and centering feature of the tapered wall, dependent claims 9 and 11 have been canceled and incorporated into independent claim 1, so that claim 1 now recites the following:

"...the tapered cavity being configured and dimensioned to receive a coaxial connector, with a diameter of the substantially circular opening being greater than a diameter of the coaxial connector".

This claimed structure of Applicants' tapered wall in claim 1 is used for self alignment or self centering of the pin tip portion of the test probe when engaging a coaxial connector, which is described in paragraphs 20-22 of Applicants' application as follows:

"Consequently, when the test probe 10 is moved forward against the coaxial connector 12, the ring conductor 72 engages the tapered wall 18. Even though the center axis of the ring conductor 72 initially may be misaligned with respect to the center axis 22 of the center probe pin 50, as the ring conductor 72 slidingly moves further into the tapered cavity 20, the tapered wall 18 progressively aligns the center axis of the connector 12 with the center axis 22."

Additionally, this centering is accomplished without having to manually snap on the probe to the coaxial connector as undertaken by the prior art, with such snap-on approaches creating the metal flake and replacement problems discussed in paragraph 0003 of Applicants' application.

Contrary to the internal tapered wall recited in Applicants' claim 1, which is for self alignment and centering, the external conical portion 4 of the probe of Takehiro is not designed to provide a self centering and self alignment of the pin 6 on an inner conductor of a coaxial connector. More specifically, the protruding conical portion 4 of the pin 6 of Takehiro is designed to engage the edge of the planar layer 8 and the pin 6 is designed to make contact with the planar layer 8 and more particularly, is designed to provide "contact from the slant upper side" of "a micro-strip line" (see Abstract of Takehiro).

To the extent that a coaxial-like connector is involved with the probe of Takehiro, it is described in the Abstract as a "high-frequency connector". This high-frequency connector couples the pin base portion at the other end of the probe housing to the "measuring instrument" and does not engage the end of the probe housing having to the movable pin tip portion (pin 6). In other words, Takehiro does not disclose a probe designed to engage and probe a coaxial connector - instead the pin 6 of Takehiro engages "a microstrip line" (see reference number 8 in the Takehiro Abstract). In the expanded Takehiro figure provided by the Examiner, the high frequency connector is labeled by hand-written note as being identified by reference number 2.

Accordingly, Takehiro does not anticipate the independent claim 1. Therefore, claim 1 is patentable over Takehiro. Additionally, for at least the same reasons, dependent claims 2-8, and 12, which are dependent from claim 1, are patentable over Takehiro.

### **C. Dependent Claims**

With respect to the dependent claim 12, which recites a coaxial connector, Applicants have amended claim 12 to make it clear that the tapered wall and the pin tip portion engage the coaxial connector. Also, claim 12 has been made dependent from claim 1.

New dependent claim 30 recites that:

“the tapered cavity is further configured and dimensioned to have a diameter at an end opposite to the substantially circular opening which is less than the diameter of the coaxial connector”.

The significance of this recitation is described in paragraph 21 of Applicants' specification as follows:

“The pin tip portion 52 continues to move forward until the ring conductor 72 stops moving forward due to the narrowing of the diameter of the tapered cavity 20, at which point the ring conductor 72 may be centered on the center axis 22 of the probe 10.”

New dependent claims 31 and 32 further define the surface and the substantially circular opening of the tapered cavity formed in the surface.

With respect to the dependent claims further describing the tapered cavity, Applicants have the following additional arguments. With respect to claim 8, Takehiro cannot teach that the tapered cavity is on the center axis, because Takehiro does not teach a tapered cavity, but instead teaches conical surface portion of the end of the pin 6. Additionally, with respect to original claim 9 (now part of amended claim 1), the Examiner refers to “the tapered cavity [cavity between 4 and 5] is configured and dimensioned to receive a coaxial connector”. However, this cavity between 4 and 5 is not tapered but is cylindrical (contains the pin 6).

## **II. Claim Rejection under 35 U.S.C. §103**

In the subject Office Action, dependent claims 10-11 were rejected under 35 U.S.C. §103(a) as being unpatentable over Takehiro in view of Lincohn (US 6,135,799) and AMP (JP 08-294450). In Examiner's analysis, the reference to Kiyoda (JP-221368) and to Royce (US 4,801,274) are also mentioned. Original dependent claim 11 has been cancelled and incorporated into claim 1. Claim 10 has been amended to depend from claim 1.

As previously described, Applicants submit that there is no teaching in Takehiro of a structure for engaging a coaxial connector with a pin tip portion. To the contrary, Takehiro teaches forming a protrusion (labeled with reference number 4) to extend past the opposed side so as to form a cut-out for engaging the micro-strip line at an angle ("contact from slant upper side is easy"). Neither Lincohn, AMP, Kiyoda nor Royce remedy the above discussed deficiencies of Takehiro in that none of these references teach a tapered wall as recited in claim 1, and more specifically, a tapered wall with a conical frustum configuration as recited in claim 10, for final alignment and centering of a coaxial connector with a movable pin tip portion. To the contrary, these references, even though some have tapered edges, disclose at most cylindrical cavities in first connectors for final securement of second connectors, with the cylindrical cavities of the first connectors providing alignment and centering of the second connectors in their final secured dispositions.

Accordingly, claim 1 remains patentable over Takehiro even when combined with one or more of these prior arts. Therefore, by virtue of its dependency, for at least the same reasons, claim 10 is patentable over Takehiro even when combined with one or more of the enumerated references.

#### IV. Conclusion

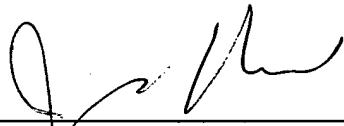
In view of the foregoing, Applicants submit claims 1-8, 10, 12, 30-32 are in condition of allowance. Claims 9 and 11 have been canceled. Claims 30-32 are newly submitted claims. Claims 13-29 were previously withdrawn. Early issuance of Notice of Allowance is respectfully requested.

The Commissioner is hereby authorized to charge shortages or credit overpayments to Deposit Account No. 500393.

Respectfully submitted,

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